June 18, 2012

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

Re: *Ex Parte Presentation*, ET Docket No. 08-59
Amendment of the Commission's Rules to Provide Spectrum
for the Operation of Medical Body Area Networks

Dear Ms. Dortch,

This is to advise that on Thursday, June 14, Delroy Smith, Dong Wang and David Siddall, representing Philips Healthcare ("Philips"); Dan Hankins, Giselle Creeser, Dan Jablonski and Ken Keane, representing the Aerospace and Flight Test Radio Coordinating Council ("AFTRCC"); Lawrence Movshin representing the American Society for Healthcare Engineering of the American Hospital Association (ASHE); and Neal Seidl and Ari Fitzgerald, representing GE Healthcare ("GEH"), participated in a teleconference with Geraldine Matise, Rashmi Doshi, Mark Settle, Brian Butler, and Shane Huang, all of the Office of Engineering and Technology, regarding the *Report and Order* in the above-referenced proceeding.

Mr. Keane sought clarification regarding the reference to attestation in para. 49 of the First Report and Order, and in particular, how during the equipment authorization process the Commission will verify that MBAN transmitters comply with the Commission's Rules for control messages, for shut-down capability, for limiting operation to indoors only in the 2360-2390 MHz band, etc.[1]

OET staff reviewed in some detail the specifics of the Commission's equipment authorization program and its related procedures. The staff explained that the Lab administers an on-going program of outreach and guidance for testing laboratories and Telecommunications Certification Bodies (TCBs). During the course of regular sessions with TCBs, the Lab provides instructions and advice regarding issues that surface in the course of equipment authorization, such as instructions on how test procedures are to be conducted to verify that equipment complies with the Commission's Rules.

The AFTRCC parties expressed appreciation for the explanation, and indicated that AFTRCC, with GEH and Philips, would consider whether additional specificity might be warranted for MBAN systems.

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[1] *See Amendment of the Commission's Rules to Provide Spectrum for the Operation of Medical Body Area Networks*, First Report and Order and Further Notice of Proposed Rulemaking, ET Docket No. 08-59, FCC 12-54 (rel. May 24, 2012) ("MBAN Order"). The relevant sentence in ¶ 49 reads: "We will require applicants for equipment certification to attest that they comply with the requirement that MBAN equipment receive the control message by describing the protocols that the devices employ including the expected periodicity for reception of control messages that will allow the MBAN transmitter to begin or continue operating in the band." (Footnote Omitted.)

In addition, Mr. Seidl addressed restrictions on MBAN communication topology imposed by the final rules.[2] Mr. Seidl explained that the Commission's explanation for imposing these restrictions in the accompanying *Report* indicated that it was motivated solely to improve the reliable delivery of the control message.[3] But delivery of the control message is relevant only for 2360-2390 MHz operation[4]. Yet the restrictions apply to the 2390-2400 MHz uncoordinated band as well to the 2360-2390 MHz coordinated band. Extending application of these restrictions to MBANs operating in the 2390-2400 MHz band will increase the complexity, cost, and potentially impact the viability of MBAN devices envisioned to address important medical use cases.

For example, in home-health and other care settings that may lack sufficient and reliable wireless LAN infrastructure (*e.g.* WMTS, 802.11 Wi-Fi), the 2390-2400 MHz band (and the same MBAN radios that operate therein) could be extremely useful for providing longer-range connectivity from the ambulatory patient to an Internet router or other centrally-located device that provides the long range backhaul connection to the healthcare provider.[5] However, due to limitations of envisioned disposable body worn sensors, it will not be feasible for them to communicate directly to the centrally-located device. Rather, a single less power-constrained patient worn hub device will be required to aggregate the sensor data and relay it to the central device. Such a topology using the 2390-2400 MHz band appears to be precluded under the final rules.

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[2] *See* 47 C.F.R. § 95.1209(g) and Appendix 1 to Subpart E of Part 95 (defining MBAN as "a low power network consisting of a [*single*] MedRadio programmer/control transmitter and multiple body-worn devices.").

[3] *See MBAN Order* ¶ 37.

[4] *See id.* ¶¶ 49, 65 and 47 C.F.R. § 95.628(c).

[5] Such use of the 2390-2400 MHz band has long been envisioned. In its October 5, 2009 comments, Philips argued that higher power is needed in the 2390-2400 MHz band to allow patient mobility. Philips calculations demonstrated that 20 mW would support a 10 meter maximum range in a home environment. This analysis is based upon a low-power (1 mW) low duty cycle device transmitting to a body worn hub, which would use the 20 mW to transport that data up to 10 meters to another hub connected to the backhaul network *or* relay to another such hub. It has never been contemplated that highly-constrained disposable sensor devices themselves could be developed to use the higher power. Even with 20 mW, larger homes may require more than one relay to reach the backhaul connection. Philips Comments, ET Docket No. 08-59 at pp. D-1, E-31 to E-33 (Oct. 5, 2009). Similarly, AdvaMed argued that the architecture of MBAN systems be left to manufacturers to result in the lowest cost and most innovative implementation. AdvaMed Comments, ET Docket No. 08-59 at p.7 of 13 (Oct. 6, 2009).

Respectfully Submitted,

/s/

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